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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/650,796	08/29/2003	Hidetaka Kodama	MAE 185 DI C1	7443

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EXAMINER

NGUYEN, JENNIFER T

ART UNIT PAPER NUMBER

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/650,796	<b>Applicant(s)</b> KODAMA ET AL.	
	<b>Examiner</b> Jennifer T. Nguyen	<b>Art Unit</b> 2674	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 29 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-34 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12-25 and 27-34 is/are rejected.
- 7) ☒ Claim(s) 11 and 26 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>8/29/03</u> . | 6) <input type="checkbox"/> Other: _____  |

**DETAILED ACTION*****Double Patenting***

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Patent No. US 6,642,916 (claim 1)	Application 10/650,796 (claim 1)
A driving circuit for driving a liquid-crystal display, the display having a matrix of first signal lines aligned in a first direction and second signal lines aligned in a second direction transverse to the first direction, a plurality of switching elements controlled by the first signal lines, disposed at intersections of the first signal lines with the second signal lines, and a plurality of liquid-crystal capacitors disposed at said intersections and coupled through said switching elements to the second signal lines;	A driving circuit for driving a liquid-crystal display having a matrix of first signal lines aligned in one direction and second signal lines aligned in another direction, a plurality of switching elements controlled by the first signal lines, disposed at intersections of the first signal lines with the second signal lines, and a plurality of liquid-crystal capacitors disposed at said intersections and coupled through said switching elements to the second signal lines;
a plurality of first drivers for sequentially driving said first signal lines to active and inactive levels, thereby switching said switching elements on and off at certain transition times;	a plurality of first drivers for sequentially driving said first signal lines to active and inactive levels, thereby switching said switching elements on and off at certain transition times;

a plurality of second drivers for driving said second signal lines with signals representing picture-element intensities;	a plurality of second drivers for driving said second signal lines with signals representing picture-element intensities;
a switching circuit coupled to a plurality of the signal lines aligned in a direction which is one of said first direction and said second direction, simultaneously disconnecting said plurality of the signal lines aligned in said one direction from their respective drivers among said first drivers and said second drivers during said transition times, and simultaneously placing the disconnected signal lines in a short-circuited state by connecting each of the disconnected signal lines to an adjacent one of the disconnected signal lines.	a switching circuit coupled to a plurality of signal lines among said first signal lines and said second signal lines, for disconnecting at least two of said signal lines from respective drivers among said first drivers and said second drivers during said transition times, and placing the signal lines thus disconnected in a short-circuited state.

2. Claims 1-34 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-16 of U.S. Patent No. US 6,642,916. Although the conflicting claims are not identical, they are not patentably distinct from each other because the only difference between the application 10/650,796 and the US 6,642,916 is the switching circuit coupled to a plurality of signal lines aligned in a direction which is one of said first direction and said second direction. However, it would have been obvious to obtain the switching circuit coupled to a plurality of signal lines aligned in a direction which is one of said first direction and said second direction in order to obtain a short circuit state efficiently, thereby reducing current consumption.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1-5, 12-15, 18, 20-22, 32, and 33 are rejected under 35 U.S.C. 102(e) as being anticipated by Okada et al. (Patent No. US 6,172,663).

Regarding claims 1, 18, and 32, Okada teaches a driving circuit for driving a liquid-crystal display having a matrix (100, fig. 9) of first signal lines (S1-Sn) aligned in one direction and second signal lines (G1-Gm) aligned in another direction, a plurality of switching elements (T1,1-Tm,n) controlled by the first signal lines, disposed at intersections of the first signal lines with the second signal lines, and a plurality of liquid-crystal capacitors (P1,I) disposed at said intersections and coupled through said switching elements to the second signal lines (col. 1, lines 41-49), comprising:

a plurality of first drivers (ASW0-ASW3, fig 10) for sequentially driving said first signal lines to active and inactive levels, thereby switching said switching elements on and off at certain transition times (col. 2, lines 1-10, lines 57-67);

a plurality of second drivers (ASW4-ASW7) for driving said second signal lines with signals representing picture-element intensities (col. 2, lines 1-10, lines 57-67); and

a switching circuit (fig. 1) coupled to a plurality of signal lines among said first signal lines and said second signal lines, for disconnecting (i.e., SWv0 is turned off) at least two of said signal lines from respective drivers among said first drivers and said second drivers during said transition times, and placing the signal lines thus disconnected in a short-circuited state (i.e., SWs is turned on) (col. 11, lines 1-44, col. 12, lines 7-16).

Regarding claims 2 and 33, Okada teaches said switching circuit disconnects all of said second signal lines from said second drivers during all of said transition times (col. 11, line 65 to col. 12, line 16).

Regarding claims 3, 5, 20, and 22, Okada teaches the switching circuit short-circuits said second signal lines, when disconnected from said second drivers, to a fixed potential (col. 11, line 65 to col. 12, line 16).

Regarding claims 4 and 21, Okada teaches said fixed potential is a common potential applied to said liquid-crystal capacitors (col. 11, line 65 to col. 12, line 16).

Regarding claims 12 and 15, Okada teaches said switching circuit disconnects a pair of said first signal lines from corresponding first drivers when both first signal lines in said pair are undergoing transitions between said active and inactive levels (col. 11, line 24 to col. 12, line 16).

Regarding claim 13, Okada teaches said switching circuit short-circuits the first signal lines in said pair to a potential halfway between said active and inactive levels (col. 11, line 24 to col. 12, line 16).

Regarding claim 14, Okada teaches said liquid-crystal capacitors have a common electrode to which a certain common potential is applied, and said switching circuit short-circuits the first signal lines in said pair to said common potential (col. 11, line 24 to col. 12, line 16).

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 6, 10, 16, 19, and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (Patent No. US 6,172,663) in view of Hirai et al. (Patent No. US 5,646,643).

Regarding claim 6, Okada differs from claim 6 in that he does not specifically teach the switching circuit has a plurality of resistors, and couples said second signal lines to said fixed potential through said resistors.

Hirai teaches switching circuit (fig. 17) has a plurality of resistors, and couples said second signal lines to said fixed potential through said resistors (col. 22, lines 21-51).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the a plurality of resistors as taught by Hirai in the system of Okada in order to uniform display for realizing a satisfactory display.

Regarding claims 10, 16, 19, 31, the combination of Okada and Hirai teaches said switching circuit has a plurality of resistors, and short-circuits said first signal lines through said resistors (col. 22, lines 21-51).

7. Claims 7-9, 23-25, 27-30, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (Patent No. US 6,172,663) in view of Sasaki (Patent No. US 6,049,321).

Regarding claims 7, 23, and 30, Okada differs from claims 7, 23, and 30 in that he does not specifically teach the switching circuit short-circuits each one of said second signal lines to an adjacent one of said second signal lines.

Sasaki teaches a switching circuit short-circuits each one of said second signal lines to an adjacent one of said second signal lines (fig. 5, col. 9, line 65 to col. 10, line 28). Therefore, it

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would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the switching circuit short-circuits each one of said second signal lines to an adjacent one of said second signal lines as taught by Sasaki in the system of Okada in order to reduce driving ability, as a result, reduce electrical power.

Regarding claims 8, 9, 24, and 25, the combination of Okada and Sasaki teaches said second drivers drive mutually adjacent second signal lines in mutually opposite directions from a certain center potential (fig. 5, col. 9, line 65 to col. 10, line 28 of Sasaki).

Regarding claims 27, 28, and 34, the combination of Okada and Sasaki teaches short-circuiting short-circuits the first signal lines in said pair to a potential halfway between said active and inactive levels (fig. 5, col. 9, line 65 to col. 10, line 28 of Sasaki).

Regarding claim 29, the combination of Okada and Sasaki teaches a common electrode to which a certain common potential is applied, and said step of short-circuiting short-circuits the first signal lines in said pair to said common potential (col. 11, line 65 to col. 12, line 16 of Okada).

8. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Okada et al. (Patent No. US 6,172,663) in view of Koyama et al. (Patent No. US 5,764,206).

Regarding claim 17, Okada differs from claim 17 in that he does not specifically teach the switching elements are thin-film transistors.

Koyama teaches switching elements are thin-film transistors (see abstract). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the switching elements are thin-film transistors as taught by Koyama in the system of Okada in order to provide switches are suitable to a high speed response.



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9. Claims 11 and 26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The prior art made of record and not relied upon is considered to pertinent applicant's disclosure.

Isami et al. (Patent No. US 6,166,725) teaches LCD device wherein voltage having opposite polarities.

Yamashita et al. (Patent No. US 4,795,239) teaches method of driving a display panel.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer T. Nguyen whose telephone number is 571-272-7696. The examiner can normally be reached on Mon-Fri: 9:00am-5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick N. Edouard can be reached on 571-272-7603. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jennifer Nguyen  
2/3/06

  
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SUPERVISORY PATENT EXAMINER